
Introduction

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Technical Workshop Carbon Tax: Design and Implementation in Practice
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BACKGROUND: THE MAKING OF THE CARBON TAX GUIDE
Purpose of Carbon Tax Guide: A practical tool for policy makers to determine:

1. Whether a carbon tax is the right instrument to achieve their policy aims...
2. ...and how to design and implement a carbon tax.

Primary target audience: policy makers in PMR Participant countries, but broader relevance to other jurisdictions, experts and civil society groups

Prepared by: Climate Focus; School of Public and Environmental Affairs, Indiana University; and Gnarly Tree Sustainability Institute
Key principles

• **Country-driven approach:** the right design options will depend on national context and priorities.

• **Agnostic approach:** options assessment and how-to tool – not promoting one approach over others.
Methodology

- Desk research
- Questionnaires
- Interviews
- Expert review (countries, international organizations)
A Guide of Three Parts

Available for download from:
https://openknowledge.worldbank.org/handle/10986/26300
OVERVIEW: THE CARBON TAX GUIDE AT A GLANCE
Introducing carbon taxes

What is a carbon tax?

“A carbon tax is a tax that explicitly states a price on greenhouse gas emissions or that uses a metric directly based on carbon (that is, price per tCO$_2$e).”

Which can be described by the formula...

\[
\text{Carbon tax} = \text{Excise taxes on fuel} \times \text{VAT} \times \text{Taxes on emitting goods (e.g. vehicles)}
\]

What is not a carbon tax?

- Excise taxes on fuel
- VAT
- Taxes on emitting goods (e.g. vehicles)
Carbon taxes in the world

[Map showing countries with carbon taxes in 2016]

- IMPLEMENTED - National carbon tax
- IMPLEMENTED - Subnational carbon tax
- SCHEDULED - National carbon tax
- UNDER CONSIDERATION - National, type of carbon price undecided
- UNDER CONSIDERATION - Subnational, type of carbon price undecided

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Carbon tax design at a glance
When is a carbon tax the right choice?

- **Carbon taxes have many strengths:**
  - Market-based instrument – efficiency, flexibility
  - Stable, long-term price signal – investor certainty
  - Generate public revenues
  - Potential economic benefits

- **But suitability depends on context:**
  - Most effective in more market-driven economies (and sectors)
  - Address economic barriers to mitigation (lack of incentive)
  - Policy mix – climate, energy, economic and fiscal policy
Setting the stage for carbon tax design

Policy objectives

- GHG Emission Mitigation
- Revenue raising
- Low-carbon development
- Fiscal efficiency
- Government capacities
- Economy
- Emissions profile

National circumstances

Tax base
- Tax rate
- Institutions
- Revenue use
- Avoiding unwanted effects
## Design phase – key decisions

<table>
<thead>
<tr>
<th>Define the tax base</th>
<th>Determine the tax rate</th>
<th>Address potential undesirable effects</th>
<th>Determine use of revenues</th>
<th>Ensure oversight and compliance</th>
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</thead>
<tbody>
<tr>
<td>✓ Decide which sectors to cover</td>
<td>✓ Determine the basis for setting the tax rate</td>
<td>✓ Assess the risk of the tax leading to carbon leakage or producing negative distributional effects</td>
<td>✓ Calculate projected revenue from the carbon tax</td>
<td>✓ Map the required roles and functions for administering the tax</td>
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<tr>
<td>✓ Decide which gases to cover</td>
<td>✓ Determine how the rate will develop over time</td>
<td>✓ Consider the costs and benefits of adopting measures to mitigate risks</td>
<td>✓ Determine whether to redistribute revenues, lower income taxes, increase spending, or to do all three</td>
<td>✓ Determine whether these roles and functions can be carried out with existing capacities or require new roles to be defined and different capacities</td>
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<tr>
<td>✓ Choose the points of regulation</td>
<td>✓ Consider using modeling to predict the effects of different tax rates on meeting policy objectives</td>
<td>✓ Consider the costs and benefits of different measures</td>
<td>✓ Decide whether to allow offsets</td>
<td>✓ Establish clear procedures and ensure coordination of key entities</td>
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<td>✓ Choose the entities to regulate and set thresholds (if relevant)</td>
<td>✓ Develop criteria to determine eligibility for assistance measures (if relevant)</td>
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<td>✓ Include clear and meaningful penalties for noncompliance</td>
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</table>
Design choice interactions

Revenue recycling may help win support for higher rate

Characteristics of covered sectors affect tax rate
Scope affects revenue generated

Can use revenue to address leakage and distributional risks

Tax rate affects leakage and distributional risks

Some options require additional capacities

Avoiding unwanted effects

Tax rate affects revenue generated

Revenue use

Some options require additional capacities

Institutions

sector scope influences distributional and leakage risks

Tax base affects institutional & MRV needs

Note: MRV = Measuring, Reporting and Verification.
Evaluate and review

**Rationale:** Assess progress and facilitate adaption and improvement: “learning by doing”
Approaches to adjustments

Automatic adjustments
- Link adjustments to specific factors, e.g. meeting mitigation targets, inflation, GDP;
- Predictable and transparent, but inflexible

Administrative adjustments
- Delegate responsibility for certain adjustments to agencies or executives
- Useful for adjustments involving administrative procedures, appeals processes, MRV programs, and conflicts with other statutes and programs.

Legislative adjustments
- Often used for major adjustments, e.g. coverage, exemptions
- Often slow and less predictable
Conclusions

1. **Renewed and growing interest.** Sustained momentum over last decade
2. **(Almost) three decades of experience.** Large knowledge base
3. **Flexible and adaptable.** Increasing variety in designs and approaches
4. **Multiple benefits.** Well-designed carbon taxes can bring environmental, economic and fiscal benefits

Can greater cooperation facilitate stronger ambition?